



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/418,323	10/14/1999	MATHIAS LARSSON	2466-41	8745

23117 7590 05/07/2003

NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

EXAMINER

NGUYEN, CHAU T

ART UNIT	PAPER NUMBER
----------	--------------

2142

DATE MAILED: 05/07/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/418,323

Applicant(s)

LARSSON ET AL.

Examiner

Chau Nguyen

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Amendment C, received on 2/24/2003, has been entered. Claims 15-31 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 15-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Percival et al. (Percival) Patent No. 5,991,816, and further in view of Sato, Patent No. 6,532,307.

4. As to claim 15, Percival discloses a method of compressing an image at a server, storing a compressed representation of the image at the server and transmitting at least part of the compressed representation of the image from the server to at least one client, the method comprising:

Art Unit: 2142

transforming the image (col. 6, lines 10-26);

after said transforming, subdividing each block (col. 6, lines 53-64);

compressing, at least a first block and at least a second block into different independently decodable coding units, respectively (col. 6, line 44 – col. 7, line 29: a digitized image composed of image pixel blocks A, B, C, and D, and each of pixel block describes the color or intensity of the underlying image at comparable coordinates, and image pixel blocks A, B, C, and D are considered as independently decodable coding units; the transformation provides image data that is susceptible to additional compression techniques);

after said compressing, storing at least one of the first and second coding units on the server (col. 8, line 63 – col. 9, line 6);

receiving a request at said server (col. 9, lines 29-52: image transmitting server 12 awaits a request for an image as indicated at decision block 101 of Figure 2; and col. 10, lines 45-64: allowing a user to select a portion of the image which refers to image data relating to the image); and

responsive to the request, transmitting from the server to at least one client the coding unit(s) corresponding to the request so that upon receiving the request the coding unit(s) corresponding to the request are transmitted to the at least one client without the server having to employ further entropy encoding with respect thereto;

However, Percival does not disclose transforming the image into a frequency domain to form frequency domain coefficients; subdividing the frequency domain

Art Unit: 2142

coefficients corresponding to the image into at least one block; each block comprising at least one transformed coefficient; and compressing via entropy coding. In the same field of endeavor, Sato discloses an image to be encoded undergoes the discrete wavelet transform by a discrete wavelet transformer E1, and is segmented into a series of coefficients, which belong to a predetermined number of different frequency bands (sub-bands); Coefficients belong to these sub-bands are output in turn to a quantizing unit E2, which quantizes the coefficients of the input sub-bands by a predetermined quantizing step, and outputs quantizing indices to an entropy encoder E3 (col. 2, line 39 - col. 3, line 22 and Fig. 2). Since Sato discloses an image processing apparatus for searching an image database that stores encoded image data for a desired image, which is similar to the system of Percival, thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Percival and Sato to include transforming the image into a frequency domain to form frequency domain coefficients; subdividing the frequency domain coefficients corresponding to the image into at least one block; each block comprising at least one transformed coefficient; and compressing via entropy coding. Sato suggests that quantized coefficients are entropy-encoded upon encoding or coefficients may be replaced by region segmentation information, the search presses can be implemented at higher speed.

5. As to claim 16, Percival and Sato (Percival-Sato) disclose wherein the request describes at least one region of interest of the image, wherein the server identifies

Art Unit: 2142

which of stored coding units contain information transformed coefficients needed to reconstruct said region of interest, and the server transmits the identified coding unit(s) needed to reconstruct the region of interest to the at least one client (Percival, col. 4, line 31 – col. 5, line 5, col. 9, lines 29-54; Sato, col. 4, line 41 – col. 5, line 5).

6. As to claim 17, Percival-Sato disclose wherein the request defines at least one coding unit, and the server transmits the at least one coding unit that is defined in the request to the at least on client (Percival, col. 10, line 65 – col. 11, line 29).

7. As to claim 18, Percival-Sato disclose wherein the request contains information identifying region(s) of less interest of the image that the at least one client does not want to receive (Percival, col. 10, line 46 – col. 11, line 3).

8. As to claim 19, Percival-Sato disclose wherein the region of interest is defined by a mask in the transform domain (Percival, col. 9, lines 39-52).

9. As to claim 20, Percival-Sato disclose wherein the region(s) of less interest is defined by a mask in the transform domain (Percival, col. 10, line 65 – col. 11, line 37).

10. As to claim 21, Percival-Sato disclose wherein the request comprises information identifying at least one coding unit that the at least one client does not want to receive (Percival, col. 10, line 46 – col. 11, line 29).

11. As to claim 22, Percival-Sato disclose wherein, in response to the request, the server only transmits coding units that have not already been transmitted to the at least one client (Percival, col. 2, lines 49-63: a user, prior to completion of the transmission of the image data of the first field, may view the image and provide instructions defining a second field, and these instructions may be received by the transmitting site causing it to continue the ordered transmission of the image data, excluding data not in the second field).

12. As to claim 23, Percival-Sato disclose wherein the request defines at least one coding unit, and the server only transmits in response to the request coding units that have not already been transmitted to the at least one client (Percival, col. 11, lines 42-54).

13. As to claim 24, Percival-Sato disclose wherein the image is transformed into the frequency domain using at least a wavelet transform (Sato, col. 3, lines 3-22).

14. As to claim 25, Percival-Sato disclose wherein the blocks are arbitrarily shaped blocks (Sato, col. 3, lines 36-49 and Fig. 3).

15. As to claim 26, Percival-Sato disclose wherein the image is quantized (Sato, Fig. 2).

Art Unit: 2142

16. Claims 27-31 are corresponding to server and client apparatus containing similar limitations as discussed in claims 15-26; therefore, they are rejected under the same rationale.

Art Unit: 2142

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau Nguyen whose telephone number is (703) 305-4639. The Examiner can normally be reached on Monday-Friday from 7:30am to 4:30pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark Powell, can be reached at (703) 305-9703.

The fax phone numbers for the organization where this application is assigned are as follows:


(703) 746-7238 (After Final Communications only)

(703) 746-7239 (Official Communications)

(703) 746-7240 (for Official Status Inquiries, Draft Communications only)

Inquiries of a general nature relating to the general status of this application or proceeding should be directed to the 2100 Group receptionist whose telephone number is (703) 305-3900.

Chau Nguyen
Patent Examiner
Art Unit 2142



MARK R. POWELL
SUPERVISORY PATENT EXAMINER
GROUP 2400